Evidence Based Practice – Ideas for Academic Librarians

Lili Luo

Nov 9, 2018
OK-ACRL

Topics

- Definition and history of evidence based practice

- Process of evidence based practice

- Formulation and operationalization of the "Question/Problem"

In 2016, *Library Journal* identified 11 essential skills librarians are expected to master in the next 20 years. One such skill is:

"the ability to determine the data needed to make decisions, understand how to collect, analyze, and gain insight from that data, and present the accompanying narrative to explain it to others"

A little history

Evidence Based Medicine

↓

Evidence Based Librarianship
- Medical Librarianship

↓

Evidence Based Library and Information Practice (EBLIP) - Librarianship in General

EBLIP involves

- methods for resolving daily problems in the profession through the integration

of **experience** and **research**

- **asking** questions, **finding** information to answer them (or conducting one's own research)

and **applying** that knowledge to our practice

(Koufogiannakis, Slater & Crumley, 2004)

SJSU | SCHOOL OF INFORMATION
Innovative Learning. Global Connections.

	5A	Updated 5A
define the problem or formulate the question	Ask	Articulate (the problem)
find the evidence	Acquire	Assemble (the evidence base)
critically appraise the evidence	Apprise	Assess (the evidence)
apply the appraised evidence to the problem	Apply	Agree (the actions)
quality assurance	Assess	Adapt (the implementation)

(Booth & Brice, 2004; Booth, 2009)

Evidence Based Library and Information Practice (EBLIP)

Evidence

What is evidence

Hard Evidence
Published literature
Original research
Analysis of virtual or physical artifacts
Internal statistics
External statistics
Publicly available documents
Blogs and social media
Conference presentations, proceedings and posters

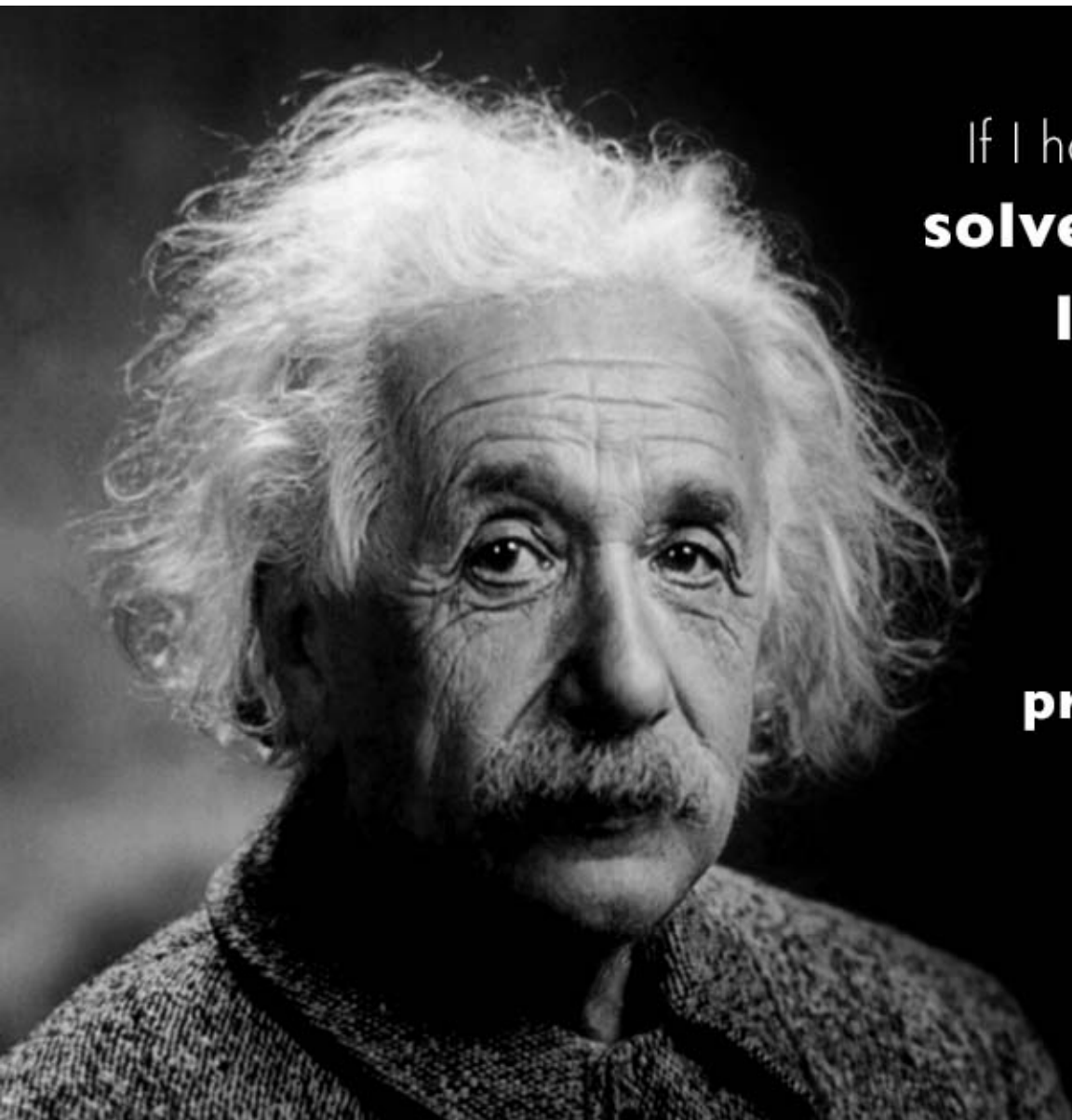| Soft Evidence |
|---|
| Input from internal colleagues |
| Input from external colleagues |
| Input from user community |
| Anecdotes |

Ask/Articulate (the problem)

Or

Formulate the Research Question

If I had an hour to **solve a problem** and my **life depended** on it, I would use the first 55 minutes determining the **proper questions to ask.**

Albert Einstein

SJSU | SCHOOL OF
Innovative Learning. Global

Broad

Iterative process

Consider what the study purpose is, who the audience is, what's already known, what to do with the findings

Narrow

Research Goal
To determine the value of active learning in online information literacy instruction

Types of Data Needed
1. Data about the effectiveness of active learning activities in online classes
2. Data about the advantages and disadvantages of active learning activities in online classes from the student perspective

Research Questions
1. Do students in online classes with active learning activities perform better than those in traditional online classes?
2. Do students in online classes with active learning activities have a higher satisfaction level than those in traditional online classes?
3. What are student perceptions of the content , length, and implementation of the active learning activities in online classes?

Types of Research Question

Descriptive questions seek to describe an observed social phenomenon and find out "what is happening" or "what exists".

Relationship questions aim at examining the correlation between two or more variables.

Causality questions seek to determine whether/to what degree one or more variables (e.g., a program or a stimulus) causes or affects one or more outcome variables.

11

Evaluate a Research Question

- Can the research question hold my interest?

- Can the research question pass the "so what" test?

- Is the research question well-grounded in existing research?

- Are all the terms in the research question unambiguous and operationally definable? Is the research question empirically answerable?
  - ➢ Example: Do <u>students</u> in <u>online classes with active learning activities</u> <u>perform</u> better than those in <u>traditional online classes</u>?

- Is answering the research question feasible, given the constraint of time, budget, expertise, manpower, and ethics?

A **research question** should articulate what we seek to study – that is, what kind of data we are collecting in the study.

A common mistake – <u>mixing up the research goal and the research question</u>

How can XX library improve services for international students?

Research Goal

Data needed – current status of how international students use or not use library services

How do international students use library services?

Research Question

Operationalize the Research Question

Key Concepts and Steps

Variables and attributes

Variables are logical groupings of attributes.

"Research is a language of variables."
- Earl Babbie (2013)

Example

Variable	Attributes
Library setting Task subject	Academic library, public library… Humanities, physics, law…

Relationship between two variables

Predicts/Affects

Independent Variable $\longrightarrow$ Dependent Variable

Independent Variable

Influences **CHANGE** in the

Dependent Variable

CAUSE

EFFECT
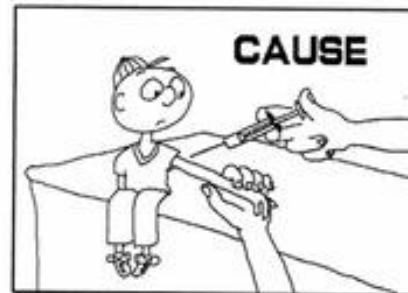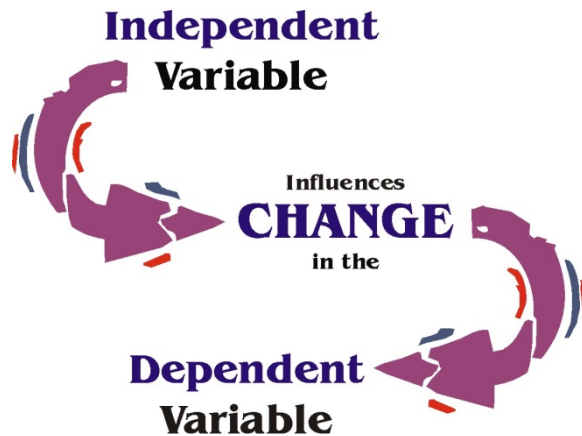
Levels of measurement - Nominal

Attributes are discrete, and have only the characteristics of exhaustiveness and exclusiveness.

Disney Princess

Cinderella Elsa Moana Belle …

Eye color

Brown **Green** **Blue** …

Levels of measurement - Ordinal

Attributes are discrete, and can be logically rank-ordered.

Age

Under 18   18 - 30   **Above 30**
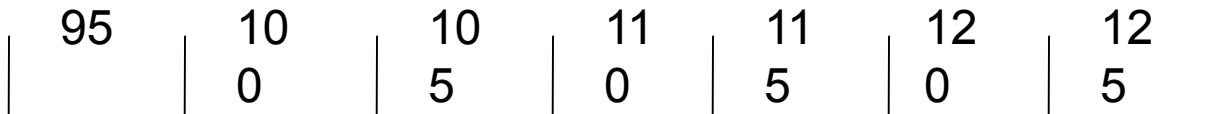
Satisfaction with library reference service

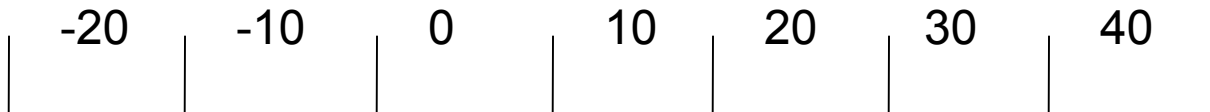Not satisfied   **Somewhat satisfied**   **Very satisfied**

Levels of measurement - Interval

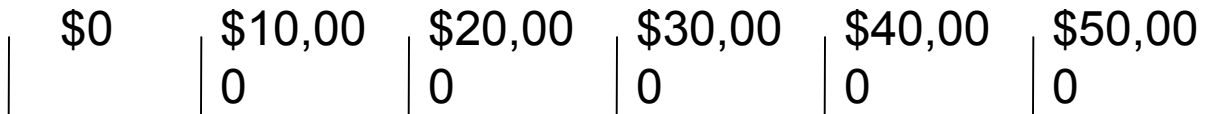Attributes are numerical values (continuous), but 0 is not a true 0.

IQ

95	100	105	110	115	120	125

Temperature

-20	-10	0	10	20	30	40

Levels of measurement - Ratio

Attributes are numerical values (continuous), and 0 represents a true value.

Income

$0	$10,000	$20,000	$30,000	$40,000	$50,000

Age

0	10	20	30	40	50	60
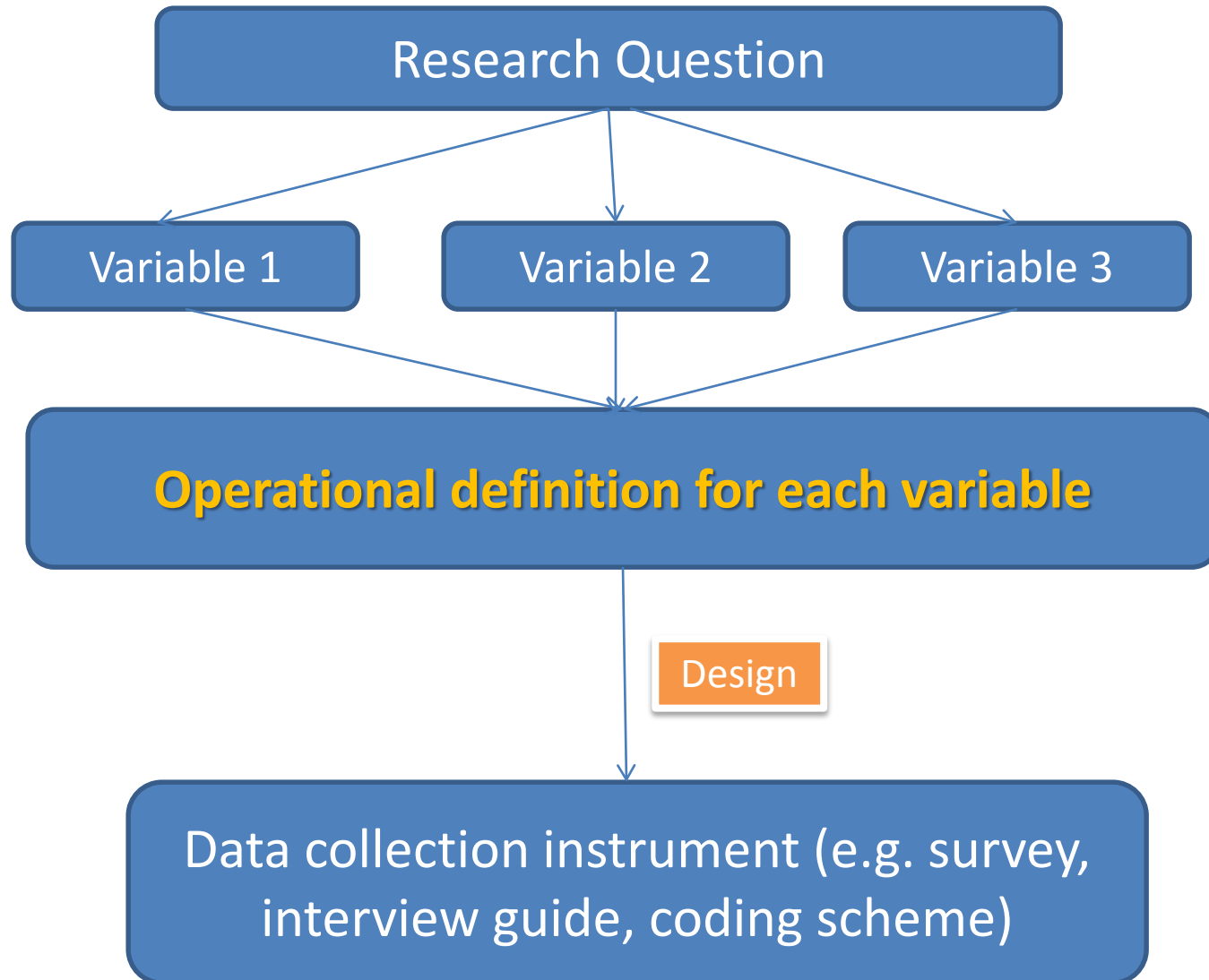
Operational definitions

An operational definition is the concrete and specific definition of a concept in terms of how it will be studied and measured.

Research question: How do <u>international students</u> at University of Central Oklahoma <u>use</u> library <u>reference services</u>?

❑ <u>International students</u>: international undergrads that are members of the Chinese Student Association and Korean Student Association

❑ <u>Library reference service:</u> human-intermediated information services provided by the University library, including chat, email, ref desk, phone and individual consultation

❑ <u>Use</u>: types of reference service used, purposes of using reference service (course assignment, research assistance, personal information needs, other), outcome of using reference service (the extent to which information needs are met), frequency of use

<u>Students:</u>

What is your home country?
- China
- Korea
- Other, please specify

What is your grade level?
- Freshman
- Sophomore
- Junior
- Senior

What is your gender?
- Male
- Female
- Non-binary
- Other

Use of Library reference services:

Which of the following library reference services have you used in the past three months? Select all that apply.
- I talked to a librarian at the reference desk.
- I called a librarian on the phone.
- I chatted with a librarian online.
- I emailed a librarian.
- I texted a librarian.
- None of the above. (Exit the survey)

How many times have you used the services selected above in the past three months?
- Less than 5;   5 to 10;   More than 10

What were your purposes of using these services? Select all that apply.
- Completing course assignments
- Completing my work as a research assistant for a professor
- Satisfying a personal need for information
- Other please specify_____

To what extent do you agree with this statement - "I received the information I needed from the library reference services I used."
- Disagree 1   2   3   4   5 Agree

Research question: How do <u>international students</u> at University of Central Oklahoma <u>use</u> library <u>reference services</u>?

- ❑ <u>International students</u>: international undergrads that are members of the Chinese Student Association and Korean Student Association
- ❑ <u>Library reference service:</u> human-intermediated information services provided by the University library, including chat, email, ref desk, phone and individual consultation
- ❑ <u>Use</u>: types of reference service used, purposes of using reference service (course assignment, research assistance, personal information needs, other), outcome of using reference service (the extent to which information needs are met), frequency of use

Survey questionnaire design

As we operationalize our research question, how do we know whether the question is appropriate for quantitative research or qualitative research?

- **Nuanced and in-depth examination of a phenomenon (narrative)** VS. **Quantification of observations (numbers)**
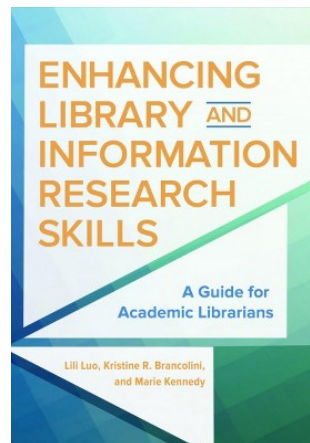
- **Exploring concepts** VS. **Measuring variation**

A university library is planning to implement an Open Educational Resources initiative. Their goal is to understand how to effectively and successfully create an OER guide that meets the needs of instructional faculty. The library will conduct a study to inform this initiative.

1. Based on this research goal, what types of data are needed?

2. Based on the needed data, what is the research question?

3. How is the research question operationalized – what are the operational definitions for the research question?

SJSU | SCHOOL OF INFORMATION
Innovative Learning. Global Connections.

[Institute for Research Design in Librarianship](#)

Luo, L., Brancolini, K. & Kennedy, M. (2017). *Enhancing library and information research skills: A guide for academic librarians*. Santa Barbara, CA: Libraries Unlimited.

Questions?